What Is Claimed Is:

1. An assembly comprising:

an electrical cable, the electrical cable comprising at least one electrically conductive wire;

a plurality of optical waveguides, the optical waveguides being disposed peripherally about the electrical cable in a manner to detect chafing of the electrical cable;

first and second optical waveguide connectors; and

first and second wavelength division multiplexing multiplexers/demultiplexers, the first wavelength division multiplexing multiplexer/demultiplexer operatively connecting each of the plurality of optical waveguides to the first optical waveguide connector, the second wavelength division multiplexing multiplexer/demultiplexer operatively connecting each of the plurality of optical waveguides to the second optical waveguide connector.

2. An assembly in accordance with claim 1 wherein the electrical cable extends longitudinally along a trajectory path and wherein each of the plurality of optical waveguides extends longitudinally along a trajectory path that is generally parallel to the trajectory path of the electrical cable.

3. An assembly in accordance with claim 2 wherein the trajectory paths of the plurality of optical waveguides are generally disposed peripherally about the electrical cable in an evenly spaced manner.

4. An assembly in accordance with claim 1 wherein each of the plurality of optical waveguides has opposite first and second longitudinal ends, the first longitudinal end of each of the plurality of optical waveguides terminating at the first wavelength division multiplexing multiplexer/demultiplexer, the second longitudinal end of each of the plurality of optical waveguides terminating at the second wavelength division multiplexing multiplexer/demultiplexer.

5. An assembly in accordance with claim 1 wherein the assembly further comprises a sheath that physically connects the plurality of optical waveguides to the electrical cable.

6. An assembly in accordance with claim 18 wherein the sheath encircles the electrical cable.

7. An assembly in accordance with claim 1 wherein each of the plurality of optical waveguides comprises a fiber optic ribbon.

8. An assembly comprising:

an electrical cable, the electrical cable comprising at least one electrically conductive wire;

a sheath, the sheath encircling the electrically conductive wire and comprising a plurality of optical waveguides, the optical waveguides being disposed peripherally about the electrical cable in a manner to detect chafing of the electrical cable;

an optical waveguide connector; and

a wavelength division multiplexing multiplexer/demultiplexer, the wavelength division multiplexing multiplexer/demultiplexer operatively connecting each of the plurality of optical waveguides to the optical waveguide connector.

9. An assembly in accordance with claim 8 wherein the optical waveguide connector constitutes a first optical waveguide connector and the wavelength division multiplexing multiplexer/demultiplexer constitutes a first wavelength division multiplexing multiplexer/demultiplexer, the assembly further comprising a second optical waveguide connector and a second wavelength division multiplexing multiplexer/demultiplexer, the second wavelength division

multiplexing multiplexer/demultiplexer operatively connecting each of the plurality of optical waveguides to the second optical waveguide connector.

10. An assembly in accordance with claim 9 wherein each of the plurality of optical waveguides has opposite first and second longitudinal ends, the first longitudinal end of each of the plurality of optical waveguides terminating at the first wavelength division multiplexing multiplexer/demultiplexer, the second longitudinal end of each of the plurality of optical waveguides terminating at the second wavelength division multiplexing multiplexer/demultiplexer.

11. An assembly in accordance with claim 8 wherein the electrical cable extends longitudinally along a trajectory path and wherein each of the plurality of optical waveguides extends longitudinally along a trajectory path that is generally parallel to the trajectory path of the electrical cable.

12. An assembly in accordance with claim 11 wherein the trajectory paths of the plurality of optical waveguides are generally disposed peripherally about the electrical cable in an evenly spaced manner.

13. An assembly in accordance with claim 8 wherein each of the plurality of optical waveguides comprises a fiber optic ribbon.

14. A method comprising:

providing first and second cables, each of the first and second cables comprising at least one electrically conductive wire and a plurality of optical waveguides;

providing an intermediate optical waveguide;

operatively connecting each of the plurality of optical waveguides of the first cable and each of the plurality of optical waveguides of the second cable to the intermediate waveguide;

transmitting a plurality of separate wavelength channels of light along the plurality of optical waveguides of the first cable, the transmitting occurring in a manner such that each of the separate wavelength channels of light is transmitted along a separate one of the optical waveguides of the first cable;

routing each of the separate wavelength channels of light transmitted along the plurality of optical waveguides of the first cable into the intermediate optical waveguide;

routing each of the separate wavelength channels of light from the intermediate optical waveguide in a manner such that each of the separate wavelength channels of light is transmitted

along a separate one of the optical waveguides of the second cable; and

utilizing the above-recited steps to monitor the second cable for chafing damage.

15. A method in accordance with claim 14 wherein the method further comprises a step of providing first and second wavelength division multiplexing multiplexers/demultiplexers, and wherein the step of operatively connecting each of the plurality of optical waveguides of the first cable and each of the plurality of optical waveguides of the second cable to the intermediate waveguide comprises operatively connecting each of the plurality of optical waveguides of the first cable to the intermediate waveguide via the first wavelength division multiplexing multiplexer/demultiplexer and operatively connecting each of the plurality of optical waveguides of the second cable to the intermediate waveguide via the second wavelength division multiplexing multiplexer/demultiplexer, the step of routing each of the separate wavelength channels of light transmitted along the plurality of optical waveguides of the first cable into the intermediate optical waveguide occurring via the first wavelength division multiplexing multiplexer/demultiplexer and the step of routing each of the

separate wavelength channels of light from the intermediate optical waveguide occurring via the second wavelength division multiplexing multiplexer/demultiplexer.

16. A method in accordance with claim 14 wherein the step of providing the intermediate optical waveguide occurs in a manner such that the intermediate optical waveguide comprises separate first and second portions and at least one optical waveguide connector, the method further comprising operatively connecting the first and second portions of the intermediate optical waveguide to each other via the optical waveguide connector, the method further comprising a step of transmitting the separate wavelength channels of light from the first portion of the intermediate optical waveguide to the second portion of the intermediate optical waveguide via the optical waveguide connector.

17. A method in accordance with claim 14 wherein the method further comprises a step of providing first and second electrical connectors, each of the first and second electrical connectors being removably attachable to the other of the first and second electrical connectors, the method further comprising a step of removably attaching the first electrical connector to the second electrical connector so as to create an electrical

communication path between the electrically conductive wire of the first cable and the and the electrically conductive wire of the second cable.

18. A method in accordance with claim 14 wherein the step of providing the first and second cables occurs in a manner such that the electrically conductive wire of each of the first and second cables extends longitudinally along a trajectory path, and such that each of the plurality of optical waveguides of the first cable extends longitudinally along a trajectory path that is generally parallel to the trajectory path of the electrically conductive wire of the first cable, and each of the plurality of optical waveguides of the second cable extends longitudinally along a trajectory path that is generally parallel to the trajectory path of the electrically conductive wire of the second cable.

19. A method in accordance with claim 14 wherein the step of providing the first and second cables occurs in a manner such that each of the first and second cables comprises a sheath, the method further comprising a step of attaching the optical waveguides of each of the first and second cables to the sheath of the respective cable and encircling the at least one electrically conductive wire of the respective cable with the

sheath of the respective cable in a manner disposing the optical waveguides of the respective cable peripherally about the at least one electrically conductive wire of the respective cable.

20. A method in accordance with claim 14 wherein the step of utilizing the recited steps to monitor the second cable for chafing damage comprises monitoring the second cable via an optical time domain reflectometer.